

REMARKS

Applicants do not disagree with the Examiner when he says in the office action that Leak et al clearly teaches an embossing pattern being varied/different relative to the lamination pattern in terms of at least one of size, bonding density, bonding area and bonding points arrangement. However, despite what the examiner says, it still does not automatically follow from the mere fact that Leak et al chooses at least one of the characteristics of size, bonding density bonding area and bonding points arrangement that there will **inevitably** be control (making use) of interaction between the emboss pattern on the nonwoven spunbonded polymer fabric and the lamination pattern on the single lamination pattern calender roll by selecting and differentiating -- whereby to control the amount of point mis-registration,” as claimed in previously presented claim 89.

This would mean that **“control” flows from “inevitable”** which is totally illogical and could never be the case. In fact, and in truth, **“inevitable” flows from “control”**.

Thus, it remains applicants’ position that claim 89 is novel and patentable over Leak et al in respect of the feature of “making use of or controlling interaction between the emboss pattern on the nonwoven spunbonded polymer fabric and the lamination pattern on the single lamination pattern calender roll by selecting and differentiating --- whereby to control the amount of point mis-registration” **alone**. To anticipate the positive step of **“making use of or controlling interaction** between the emboss pattern on the nonwoven spunbonded polymer fabric and the lamination pattern on the single lamination pattern calender roll by selecting and/or differentiating --- whereby to control the amount of point mis-registration ---,” Leak et al would have to have explicitly disclosed such a feature and have been concerned with applicants’ problem of avoiding the occurrence of blisters which Leak et al clearly is not.

For the reasons given above, such a **positive** “control” step cannot be inherent (inevitable) from the teaching of Leak et al which is concerned with the problem of producing large nonwoven loops which are open enough to easily engage hook components.

Also, applicants respectfully maintain that the examiner is wrong in his refusal to accept the principle that selection negates anticipation in relation to the feature of providing a first material comprising a nonwoven spunbonded polymer fabric having a minimum weight of approximately 50g/m². There may be a broad range in Leak et al of a non-woven weight of 5g/m²

to 60g/m², but that is all there is: there is no clear teaching, nor any intimation or suggestion, anywhere of **selecting** a minimum weight of 50g/m².

As described and claimed by applicants, the nonwoven spunbonded polymer fabric, having a plurality of emboss points that are formed under heat and pressure and form an emboss pattern, has a minimum weight of approximately 50g/m² and the emboss pattern has raised or depressed formations in the surface of the fabric. These raised or depressed formations are referred to on page 5, lines 5 to 7 of applicant's specification, viz. "An embossed material is therefore to be considered as any sheet, web, fabric, textile, lamina etc. which has raised or depressed formations provided in its surface."

It is the presence of raised or depressed formations in the surface of a nonwoven spunbonded polymer fabric having a minimum weight of approximately 50g/m² which, when largely disposed in register with the lamination points, give rise to the problem of unbonded blistered areas. These unbonded blistered areas are the unlaminated patches in the form of blisters in areas of the resultant laminate where the emboss points of the emboss pattern and lamination points of the lamination pattern were in register with each other during lamination. The presence of the raised or depressed formations, and hence the blistering problem, is related *inter alia* to fabric weight and therefore thickness (see page 4, lines 14 to 25, and Figures 3 and 4 of applicant's specification). Just as Leak et al is completely silent on the selection of a minimum fabric weight of approximately 50g/m² in a nonwoven spunbonded polymer fabric, so Leak et al is also silent as to the presence of an emboss pattern having raised or depressed formations in the surface of the fabric and recited in amended claim 89.

Thus, it follows from the above discussion that applicants respectfully **disagree** with the examiner when he says that the resultant articles of both processes are indistinguishable and that the limitation of avoiding visible blisters in a resultant laminate would naturally flow from the process taught by Leak et al in view of the similarity of the production processes.

Also, applicants respectfully point out that the production processes are **not** similar. Leak et al **cannot** have a visible interference pattern because of the loops in the nonwoven second layer 14 (Figure 1) which **inevitably** result from initially **stretching** of the first layer 12 in at least one direction by at least 25 percent; preferably at least 100 percent and, **upon release of the force causing stretching, retracts from about 15 to about 30 percent** (see Leak et al column

2, lines 66 and 67 to column 3, lines 1 to 4, column 6, lines 62 to 67 and column 7, lines 1 to 67 and column 8, lines 1 to 32) to form the laminate 10 shown in Figure 1. This laminate 10 is bulked due to stretching and relaxation of the second layer 14 such that it has from about **15 to 30 percent more surface area than the first layer 12** (column 12, lines 48 to 51). These loops in the nonwoven second layer 14 are spaced from the second non-bonded areas of the stretched and relaxed lower first layer 12, as can be seen in Figure 1, and will have many emboss bond points (not shown in Figure 1 but indicated by the reference character 20 in Figure 2) between the lamination bond sites 16 at the ends of the loops, as shown in Figure 1.

The Leak et al process requires the formation of a plurality of visible lamination bond sites (16 in Figure 1, 26 in Figure 3 and A, B and C of Figures 7, 8 and 9 respectively as identified in column 11, lines 31 to 48) in the resultant bulked laminate, that are spaced apart along the length of the material in the machine direction at regular distances from each other by selecting the bond pattern on the pattern roll (see column 7, lines 30 to 35 and Figure 4).

It is a fact that in the Leak et al bulked laminate article 10, the plurality of emboss points 20 are on the loops of the nonwoven upper second layer 14 that are spaced from the stretched and relaxed lower first layer 12 between the lengthwise extending plurality of spaced apart lamination bond sites. This fact confirms, irrespective of whether or not the nonwoven material has a weight in the range of 50g/m² to 60g/m², that the Leak et al bulked laminate article 10 **cannot** have a visible interference pattern formed of visible emboss points of an emboss pattern and visible lamination points of a lamination pattern.

In complete contrast to Leak et al, a representative example of applicants' laminate article 60 produced by applicants' lamination process described in applicants' specification on page 18, lines 23 to 33, pages 19, 20 and 21 and page 22, lines 1 to 4, with reference to Figure 6 of the drawings has a visible interference pattern formed of visible emboss points 42 of emboss pattern 41 (see page 19, lines 1 and 2) and visible lamination points 55 of lamination pattern 56 (page 21 lines 1 to 14). Such a laminate article 60 cannot therefore be a bulked laminate article with loops, as is the essential teaching of Leak et al.

Further, examples of applicants' laminate articles with interference patterns, which are therefore not bulked, are illustrated as embodiments of the invention in applicants' drawings. Thus, Figure 7C shows a visible interference pattern 70 formed of visible emboss points 42 of

emboss pattern 41 and visible lamination points 55 of lamination pattern 56 (page 23, lines 25 to 32), Figure 8C shows a visible interference pattern 72 formed of visible emboss points 42 of emboss pattern 41 and visible lamination points 55 of lamination pattern 56 (page 25, lines 4 to 13), Figure 9C shows a visible interference pattern 82 formed of visible emboss points 42 of emboss pattern 41 and visible lamination points 55 of lamination pattern 56 (page 26, lines 5 to 12) and Figures 16A and 16B show respective visible interference patterns 88 and 90 formed of visible emboss points of emboss pattern 41 and visible lamination points of lamination pattern 56 (page 28, lines 5 to 33 and page 29, lines 1 to 5).

The fact that a representative embodiment of applicants' process provides a laminate article 60 with a visible interference pattern formed of visible emboss points 41 of emboss pattern 42 and visible lamination points 55 of lamination pattern 56, which is therefore non-bulked, means that the first and second materials 40 and 43 (applicants' Figure 6) **must** be fed to the single lamination pattern calender roll 50 **in a dimensionally stable condition**. All that is done to the two materials 40 and 43 before the calender roll 60 is to pass them through flattening rollers 44 and 46 to provide tensioning and assist in flattening the previously wound materials 40 and 43 on their respective rolls 40 and 38 (page 19, lines 5 to 20). Claim 89 has been amended to recite this aspect of the process.

Thus, in applicants' claimed process, there is **no stretching** of the two materials 40 and 43 followed by **relaxation with its consequential dimensional instability** essential in the Leak et al process to provide the loops in the Leak et al laminate article. As further recited in amended claim 89, applicants operate their process such that the speed of rotation of the finishing core matches the speed of rotation of the single lamination pattern calendar roll. This is a still further contrast between applicants' claims and Leak et al's invention.

Moreover, the resultant laminate article in Leak et al which is shown in Figure 1, described in the abstract, last four lines, in column 7, lines 50 to 55 and in claim 1 (column 12, lines 48 to 51) show and state respectively that the laminate 10 is **bulk**ed due to **the second layer 14 having from about 15 percent to about 30 percent more surface area than the first layer 12 per the same unit area of the laminate**. This is an essential teaching of Leak, as otherwise there would be no loops.

Figure 6 of applicants' specification, which is relevant to all the embodiments, illustrates that the two materials 40 and 43 are fed to the single lamination pattern calender roll 50 in a substantially dimensionally stable condition. This is apparent from the view of the two materials 40 and 43 in the nip between the calender roll 50 and a counter roll 52 and the resultant laminate 60 at the right hand side of Figure 6. The right hand side of Figure 6 shows that the resultant laminate 60 is made of two materials that are dimensionally stable and has a laminated area in which the first and second materials each have substantially the same surface area. Further, exemplary proof that applicants' resultant laminate is not bulked and does not have loops as required by Leak et al can be seen from the cross-section of Figure 13A, which also clearly shows the emboss pattern having the raised or depressed formations in the surface of the fabric, and the photomicrograph cross-section of Figure 17 (see page 30, lines 10 to 27).

In order to reflect the above stated further differences and contrasts as between applicants' claimed process and article and Leak et al's process and article, claim 89 has been substantially amended so as more fully to distinguish from the teachings of Leak et al.

These amendments include the following new features, namely:

a nonwoven spunbonded polymer fabric having a minimum weight of approximately 50g/m² and having a plurality of emboss points that are formed under heat and pressure and that form an emboss pattern having raised or depressed formations in the surface of the fabric;

the minimum weight of approximately 50g/m² of said nonwoven spunbonded polymer fabric and the emboss pattern having said raised or depressed formations in the surface of the fabric normally causing the occurrence of unlaminated patches in the form of blisters in areas of the resultant laminate where the emboss points of the emboss pattern and lamination points of the lamination pattern were in register with each other during lamination;

flattening and tensioning the first and second materials to reduce the tendency of the first and second materials to crease prior to feeding the first and second materials to a single

lamination pattern calender roll of which the lamination pattern has a plurality of lamination points;

operating the single lamination pattern roll at a substantially constant speed of rotation;

feeding the flattened and tensioned first and second materials to the single lamination pattern calender roll rotating at a substantially constant speed whereby the first and second materials are in a substantially dimensionally stable condition at said single lamination pattern calender roll;

bringing the substantially dimensionally stable first and second materials together at said single lamination pattern calender roll;

feeding the resultant laminate to a finishing core onto which the resultant laminate is wound;

operating the finishing core at a speed of rotation that matches the speed of rotation of said single lamination pattern calender roll; and

the resultant laminate has a laminated area in which the first and second materials each have substantially the same surface area and a visible interference pattern formed of visible emboss points of the emboss pattern and visible lamination points of the lamination pattern.

Support for these new features have been identified in the passages of the description referred to above and in Figure 6 of the drawings of applicants' specification. Arguments distinguishing these new features from Leak et al with regard to novelty and nonobviousness have also been adduced in these passages.

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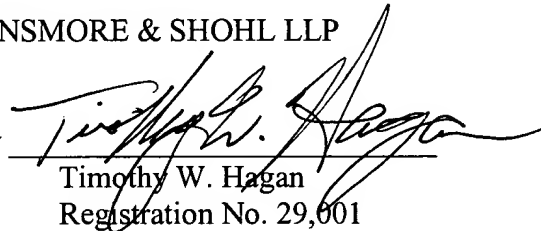
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For all of the above reasons, applicants submit that claims 2-14, 17-19, 21-23, 30-35, 37-38, 57-61, 63-65, and 89, as amended, are patentable over Leak et al. Early notification of the allowance of those claims is respectfully solicited.

Respectfully submitted,

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